

## CLAIMS

1. A photonic circuit board comprising a connection setting circuit, a group of electric wires for connecting the connection setting circuit and a plurality of devices, an optical I/O device connected to the connection setting circuit and a two dimensional optical transmission medium connected to the optical I/O device and adapted to transmit optical signals, the connection setting circuit including a circuit capable of changing the mode of connection of said group of electric wires and said optical I/O device.

2. A photonic circuit board according to claim 1, wherein said connection setting circuit is a reconfigurable integrated circuit.

3. A photonic circuit board according to claim 2, wherein said reconfigurable integrated circuit is formed by using a field programmable gate array.

4. A photonic circuit board according to claim 1, wherein said connection setting circuit is so arranged that a number of electric wires of the group of electric wires are connected to a single optical I/O device.

5. A photonic circuit board according to claim 1, wherein said connection setting circuit is so arranged that the number of optical I/O devices is smaller than the number of electric wires of the group of electric wires.

6. A photonic circuit board according to claim 1, wherein said optical I/O device is a photonic ball IC.

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7. A semiconductor apparatus, wherein a number of electronic devices are connected to the group of electric wires according to claim 1.